

Notice of Allowability

Application No.

10/611,643

Examiner

Dang T Nguyen

Applicant(s)

HIRANO ET AL.

Art Unit

2824

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. ☒ This communication is responsive to 12 January 2005.
2. ☒ The allowed claim(s) is/are 2-7.
3. ☒ The drawings filed on 02 July 2003 are accepted by the Examiner.
4. ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
 - a) ☒ All b) ☐ Some* c) ☐ None of the:
 1. ☒ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).
 - * Certified copies not received: _____.

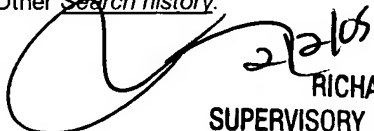
Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application.
THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.

5. ☐ A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.
6. ☐ CORRECTED DRAWINGS (as "replacement sheets") must be submitted.
 - (a) ☐ including changes required by the Notice of Draftsperson's Patent Drawing Review (PTO-948) attached
 - 1) ☐ hereto or 2) ☐ to Paper No./Mail Date _____.
 - (b) ☐ including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No./Mail Date _____.

Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).
7. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

Attachment(s)

1. ☒ Notice of References Cited (PTO-892)
2. ☐ Notice of Draftperson's Patent Drawing Review (PTO-948)
3. ☐ Information Disclosure Statements (PTO-1449 or PTO/SB/08), Paper No./Mail Date _____
4. ☐ Examiner's Comment Regarding Requirement for Deposit of Biological Material
5. ☐ Notice of Informal Patent Application (PTO-152)
6. ☐ Interview Summary (PTO-413), Paper No./Mail Date _____
7. ☐ Examiner's Amendment/Comment
8. ☒ Examiner's Statement of Reasons for Allowance
9. ☒ Other Search history


RICHARD ELMS
SUPERVISORY PATENT EXAMINER

TECHNOLOGY CENTER 28

Response to Amendment

1. This office action is in response to applicant's amendment received on 1/12/05. Claims 2, 3, 4, 5, 6, and 7 have been amended. Claim 1 has been canceled. Claims 2 - 7 are pending on this application. Claims 2, 3, and 5 are independent claims.

Allowable Subject Matter

2. Claims 2 - 7 are allowed.
3. The following is an examiner's statement of reasons for allowance:

With respect to claim 2, in addition to other elements in the respective claims, the prior art of record fails to teach or suggest "the read device has the first reference cell and a first sense amplifier and reads the memory cell by using the first reference cell and the first sense amplifier, and the threshold value comparing device has a second sense amplifier and compares the threshold value of the first reference cell with the threshold value of the second reference cell by means of the second sense amplifier".

With regard to claim 3, in addition to other elements in the respective claims, the prior art fails to teach or suggest "the read device has the first reference cell and a sense amplifier and reads the memory cell by using the first reference cell and the sense amplifier, and the threshold value comparing device shares the sense amplifier owned by the read device as a sense amplifier for comparing the threshold value of the first reference cell with the threshold value of the second reference cell".

With regard to claim 5, in addition to other elements in the respective claims, the prior art fails to teach or suggest "if electrons are injected into the floating gate of the memory cell, a state in which the threshold value of the memory cell is raised is assumed to be a written state, and a state in which the threshold value of the memory cell is low is assumed to be an erased state, then a target value of the threshold value of the first reference cell is intermediate between the threshold value in the written state and the threshold value in the erased state, and the threshold value of the second reference cell is lower than the target value of the threshold value of the first reference cell".

4. The prior art made of record and considered pertinent to the applicant's disclosure does not teach or suggest the claimed limitations. Kwon and Takano, taken individually or in combination, do not teach the claimed invention of independent claims 2, 3, and 5, in combination with other limitations.

Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

Contact Information

5. Any inquiry concerning this communication from the examiner should be directed to Dang Nguyen, who can be reached by telephone at (571) 272-1955. Normal contact times are M-F, 8:00 AM - 4:30 PM.

Upon an unsuccessful attempt to contact the examiner, the examiner's supervisor, Richard Elms, may be reached at (571) 272-1869.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist, whose telephone number is (703) 305-3900. The faxed phone number for organization where this application or proceeding is assigned is (703) 872-9306.

Information regarding the Status of an application may be obtained from the patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free) or EBC@uspto.gov.

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